



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

MEMORANDUM

SUBJECT: Five-Year Review for the Intersil/Siemens Superfund Site, Cupertino CA
CAD041472341

FROM: Tom Kremer, Superfund Policy Advisor
Site Cleanup Branch

Tom Kremer
9/27/2000

THRU: John Kemmerer, Chief
Site Cleanup Branch

John Kemmerer
9/27/00

TO: Keith Takata, Director
Superfund Division

I. INTRODUCTION

Attached, please find a copy of the Five-Year Review for the subject Superfund Site prepared by the California Regional Water Quality Control Board, San Francisco Bay Region. EPA has reviewed their Five-Year Review and adopts their recommendations as written. The Board's Five-Year Review is summarized below.

Because contaminant levels will allow for unlimited use and unrestricted exposure upon achieving ROD cleanup goals, this Five-Year Review is not required by CERCLA (Section 121©) or by Section 300.430(f)(4)(ii) of the NCP. However, because cleanup will take five years or more to attain, this Five-Year Review must be conducted as a matter of Agency policy (OSWER Directive 9355.7-02, "Structure and Components of Five-Year Reviews", 5/31/91. This review (Type 1) is applicable to sites at which construction is complete (OSWER Directive 9355.7-02A, "Supplemental Five-Year Review Guidance", 7/26/94.

II. FIVE-YEAR REVIEW SUMMARY

The site is located at 10900 North Tantau Avenue (former Intersil facility) and 19000 Homestead Road (former Siemens facility) in Cupertino, California. These were contiguous facilities which have been managed as a single Superfund site because the groundwater contamination from the facilities has been commingled since its discovery. Investigations beginning in 1982 indicated that soil and ground water were contaminated by VOCs, primarily 1,1,1-TCA, TCE, PCE and DCE. VOCs in groundwater have impacted only shallow aquifers not used for public water supply. Interim cleanup actions included removal of leaking tanks and other equipment, soil vapor extraction and groundwater extraction and treatment. EPA proposed listing the site on the National Priority List in 1988 and finalized the listing in 1990. The Record

of Decision (ROD) was signed in 1990.

The ROD set soil and groundwater cleanup standards for the site, required operation of soil vapor extraction systems, and required ground water extraction and treatment.

Siemens Corporation and General Electric Company (the parent corporation of Intersil, Inc.) have implemented the required remedial actions, operating on- and off-site ground water extraction and treatment and on-site soil vapor extraction systems. Construction completion was achieved in 1992. SVE systems at have been effective in removing VOCs from the unsaturated zone. Soil cleanup requirements were met at the former Intersil facility site in 1993 and that SVE system was shut down. At the former Siemens facility site, while soil vapor levels have decreased, cleanup standards have not yet been met, and SVE continues to operate. Ground water systems have been effective in containing the plume and reducing concentrations of contaminants in ground water, and continue to operate. Institutional controls remain in place. No exposure to contaminated groundwater is occurring or expected. The site was most recently inspected by Regional Board staff in January 2000. Full achievement of cleanup standards remains years away.

III CONCLUSION

I certify that the remedy selected for this site remains protective of human health and the environment. Based on the expected continuing presence of contamination at this site at levels which preclude unlimited use and unrestricted exposure, the next Five-Year Review will be written within five years from the signature date of this review.

Approved by: Keith Takata
Keith Takata, Director
Superfund Division

Date: 9-28-00

Attachment: California Regional Water Quality Control Board 5-Year Review



California Regional Water Quality Control Board

San Francisco Bay Region

Winston H. Hickox
*Secretary for
Environmental
Protection*

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Gray Davis
Governor

20 September 2000
File No. 2189.8181 (BLS)

Mr. Tom Kremer
USEPA Region 9 (SFD-7)
75 Hawthorne Street
San Francisco, CA 94105

SUBJECT: Submittal of 5-Year CERCLA Review for Former Intersil Site, 10900 North
Tantau Avenue, and Former Siemens Site, 19000 Homestead Road, Cupertino,
Santa Clara County

Dear Mr. Kremer:

Enclosed for your records and review is a copy of the 5-year CERCLA review for the subject
Superfund site.

If you have any questions, please contact Brett Stevens of my staff at (510) 622-2349 or by
e-mail at bls@rb2.swrcb.ca.gov.

Sincerely,

Lawrence P. Kolb
Acting Executive Officer

Stephen A. Hill, Chief
Toxics Cleanup Division

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

Five-Year Review (Type I)

**Former Intersil Site, 10900 North Tantau Avenue, and Former Siemens Site,
19000 Homestead Road, Cupertino, Santa Clara County**

I. Introduction

Authority Statement and Purpose: EPA Region IX conducted this remedial action review pursuant to CERCLA Section 121(c), NCP Section 300.400(f)(4)(ii), and OSWER Directives 9355.7-02 (May 23, 1991) and 9355.7-02 (July 26, 1994). The purpose of a five-year review is to ensure that a remedial action remains protective of public health and the environment and is functioning as designed. This document will become a part of the site file. This Type I review is applicable to a site at which response is ongoing.

Site Characteristics: The Intersil/Siemens site is a federal Superfund site in the South Bay that is overseen by the Board under an agreement with the USEPA. Pursuant to their 1990 Site Cleanup Requirements, the dischargers have evaluated the remedial activities performed at the site to determine if the selected cleanup plans are working. The results were presented in a report titled "*Five-Year Status Report for the Period 1995 through 1999*," which was submitted on 31 July 2000.

The Intersil/Siemens site is located south of Highway 101 and north of Interstate 280 in Cupertino (see attached map). The two contiguous facilities are managed as a single cleanup site because their VOC plumes are thoroughly commingled. A VOC release also occurred at the former American Microsystems, Inc. (AMI), site located northeast of the former Intersil facility and east of the former Siemens facility. The AMI site is a non-Superfund site managed under a separate Board cleanup order. To date, the Intersil/Siemens and AMI VOC plumes have not commingled owing partially to favorable groundwater flow direction and partially to discharger efforts to prevent such commingling.

Site investigations, which began in 1982, identified VOCs in soil and groundwater. The main chemicals of concern are 1,1,1-trichloroethene, trichloroethene, tetrachloroethene, dichloroethenes, Freon 113 and toluene. VOCs in groundwater are limited to the upper aquifers and have not impacted deeper aquifers used for public water supply.

Interim remedial action at the former Intersil facility began in 1986 when an inactive neutralization system (and a major source of solvent contamination) was removed. Soil vapor and groundwater extraction system startup at the former Intersil facility began in 1987. The soil vapor extraction system was shutdown in August 1993 after the discharger demonstrated that soil cleanup objectives had been met. Groundwater extraction and treatment at the former Intersil facility is ongoing.

Interim remedial actions at the former Siemens facility began in the early 1980s when five underground storage tanks used to store waste solvent were removed. A soil vapor extraction

system became operational in 1983. Groundwater extraction and treatment at this facility began in 1986. The soil vapor extraction system has operated intermittently from its installation in 1991 to the present. Groundwater extraction and treatment at the former Siemens facility is ongoing.

Further hydraulic control and remediation of the Intersil/Siemens VOC plume is achieved by three offsite groundwater extraction wells that are screened in the B-zone aquifer. Extracted groundwater from Intersil/Siemens onsite and offsite areas is treated and discharged to Calabazas Creek.

II. Discussion of Remedial Objectives

The remedial plan was developed using the nine evaluation criteria defined by CERCLA requirements and considerations. The selected remedies were soil vapor and groundwater extraction and treatment. These are the most cost-effective technologies available that are protective of human health and the environment. The soil cleanup standard is 1.0 ppm, and groundwater cleanup standards are the more stringent of USEPA MCLs and CalEPA MCLs.

III. ARARs Review

ARARs have not changed for applicable chemicals of concern.

IV. Effectiveness Evaluation

The groundwater extraction and treatment system has reduced VOC concentrations in some areas; however, VOC concentrations in groundwater are still above cleanup objectives in many areas, owing to the complexity of site hydrogeology and limitations in current cleanup technology. A summary of groundwater extraction and treatment system performance from 1995 through 1999 is presented below.

Groundwater Extraction Mass Removal Summary (1995-1999)

	<u>Volume of Extracted Groundwater</u> <u>(Million Gallons [MG])</u>	<u>VOC Mass Removal</u> <u>(Lbs.)</u>	<u>Extraction Rate</u> <u>Lbs./MG</u>
Intersil	126	221	1.8
Siemens	141	450	3.2
Offsite Area	174	251	1.4

VOC concentrations in monitoring wells located along the downgradient or perimeter edges of the offsite area have remained stable at low to non-detectable concentrations, thus demonstrating that hydraulic control of the VOC plume has been achieved.

The soil vapor extraction system at the former Siemens facility continues to effectively remove VOC mass from vadose-zone soil. Approximately 790 pounds of VOCs were removed by this system from 1995 through 1999. Although current concentrations are relatively low in

comparison to historical concentrations, the removal rate of VOCs by the soil vapor extraction system is slightly greater than the groundwater extraction system rate. However, rising groundwater levels at the site may compromise the system's future effectiveness. Despite the limitations on meeting cleanup objectives in the short-term, this remedial action remains protective of public health and the environment and is functioning as designed.

V. Summary of Site Visit

Regional Board staff inspected the Intersil/Siemens site most recently in January 2000. The groundwater extraction and treatment systems were operating properly, and the site appeared to be in compliance with Site Cleanup Requirements and NPDES permits. The soil vapor extraction system at the former Siemens facility was also operating properly during the inspection.

The buildings that constituted the Intersil facility were demolished in 1997. This property is currently vacant except for the onsite groundwater treatment system. General Electric Corporation, which is the parent corporation of Intersil, Inc., is responsible for implementing the remedial action at the former Intersil facility. The former Siemens property was sold in April 2000; however, Siemens Corporation continues to be responsible for implementing the remedial action.

Land use at both of the former facilities continues to be zoned industrial/commercial, which is consistent with the land use and chemical exposures predicted in the original risk assessment.

VI. Areas of Noncompliance

The discharger has fully implemented the approved remedial action consistent with the remedial objectives. No areas of noncompliance exist.

VII. Recommendations

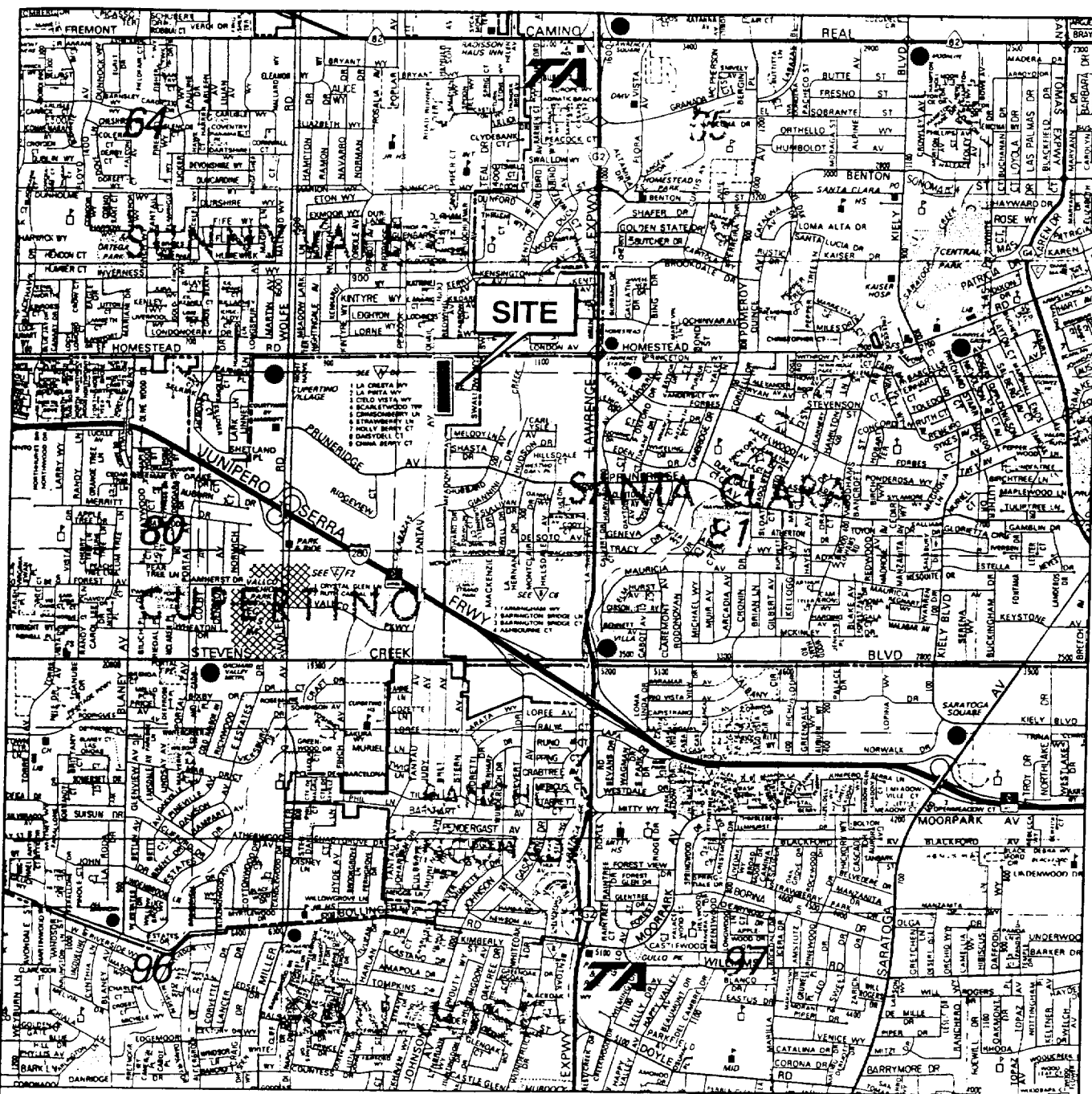
The 5-year status report recommends continued operation of the existing groundwater and soil remedial systems with no significant modifications at this time. There are no alternative remedial technologies available that would significantly improve the effectiveness of the implemented remedies.

VIII. Next Five-Year Review

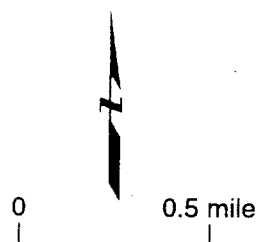
The next 5-year review of the Intersil/Siemens site will be completed by July 31, 2005.

Attachment - Site Location Map

ATTACHMENT



Base map from *The Thomas Guide, 1995 Golden Gate Street Guide and Directory*. Reproduced with permission granted by THOMAS BROS. MAPS®. This map is copyrighted by THOMAS BROS. MAPS®. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission. All rights reserved.



SITE LOCATION MAP
Intersil/Siemens Site
Cupertino, California

Project No.
1905.002H

Figure
1-1